

IN THE CLAIMS:**Listing of Claims:**

- 1 **Claim 1.** (currently amended) An emitter locator system, comprising:
- 2 a mobile DF set, said set comprising a receiver for receiving incident signal
- 3 transmissions;
- 4 a line of bearing (LOB) generating system in operative communication with said
- 5 receiver and configured to generate lines of bearing responsive to said received signal
- 6 transmissions;
- 7 an LOB error generating system in operative communication with said line of
- 8 bearing generating system and configured to generate error ~~bounds~~factors related to said
- 9 lines of bearing, said line of bearing generating system and said LOB error generating
- 10 system executed by a computing device, said computing device operatively generating a
- 11 cross-over point, said cross-over point defined as the intersection of a pair of sequential
- 12 real-time lines of bearing from said mobile DF set, each said line of bearing
- 13 corresponding to a wireless transmission from said transmitter received by said mobile
- 14 DF set and said computing device then estimates a future position of said transmitter in
- 15 reference to said cross-over point;
- 16 aa probability overlay generating system in operative communication with said
- 17 LOB error generating system and configured to generate an overlay probability map
- 18 responsive to said error ~~bounds~~factors; and
- 19 display means for visually displaying said lines of bearing, said error
- 20 ~~bounds~~factors and said overlay map.
- 1 **Claim 2.** (currently amended) The system of Claim 1, wherein:
- 2 said incident signal transmissions are further defined by strength and clarity
- 3 factors;

4 said line of bearing generating system further generates quality numbers for each
5 said line of bearing responsive to said strength and clarity factors; and

6 said LOB error generating system generates said error bounds factors responsive
7 to said quality numbers.

1 **Claim 3.** (currently amended) The system of Claim 2, further comprising a second DF
2 set in communication with said mobile DF set, said second set comprising a receiver for
3 receiving incidental signal transmissions, the system further comprising:

4 said line of bearing generating system;

5 said LOB error generating system;

6 said probability overlay generating system; and

7 said display means for further visually displaying said lines of bearing, said error
8 bounds factors and said overlay map, said lines of bearing generated by said mobile DF
9 set and said second DF set.

1 **Claim 4.** (original) The system of Claim 3, wherein said display means of said mobile
2 DF set further displays said lines of bearing generated by said second DF set.

1 **Claim 5.** (original) The system of Claim 2, wherein said mobile DF set further
2 comprises a position estimating system for determining the spacial location of said
3 transmitter responsive to said lines of bearing and said LOB errors.

1 **Claim 6.** (original) The system of Claim 5, wherein said display means further displays
2 said spacial location of said transmitter.

1 **Claim 7.** (original) The system of Claim 6, wherein said probability overlay generating
2 system is further responsive to said spacial location of said transmitter.

1 **Claim 8.** (original) The system of Claim 7, wherein said probability overlays comprise
2 a two-dimensional composite of concentric shapes.

1 **Claim 9.** (currently amended) The system of Claim 8, wherein said concentric shapes
2 comprise an inner shape concentric to an outer shape, said inner shape configuration
3 representative of said error ~~bounds~~factors having relatively small values and said outer
4 shape configuration representative of said error ~~bounds~~factors having relatively large
5 values.

1 **Claim 10.** (currently amended) A direction-finding method comprising the steps of:
2 establishing a cross-over position point;
3 relocating a receiver to a new receiver spacial location;
4 said receiver at said new receiver position receiving a transmission from a
5 transmitter at a transmitter position;
6 determining a real-time line of bearing from said receiver to said transmitter;
7 generating a connecting vector from said real-time line of bearing to said cross-
8 over position point; and
9 identifying a real-time position of said transmitter along said connecting vector;
10 displaying said real-time position on a user display panel; and
11 generating and displaying an probability overlay map responsive to said real-time
12 position and ~~asaid~~ quality factor on said user display panel.

1 **Claim 11.** (original) The method of Claim 10, wherein said identifying step further
2 comprises assigning a probability factor to said real-time position of said transmitter
3 responsive to said quality factor and said probability overlay map generating and
4 displaying is responsive to said probability factor.

1 **Claim 12.** (original) The method of Claim 11, further comprising a repeating step to
2 repeat said relocating, receiving, determining, generating, identifying, displaying and
3 generating steps until said probability factor exceeds a predetermined threshold value.

1 **Claim 13.** (original) The method of Claim 11, further comprising a repeating step to
2 repeat said relocating, receiving, determining, generating, identifying, displaying and
3 generating steps until said probability factor meets a user-defined threshold value.

1 **Claim 14.** (original) The method of Claim 11, further comprising a repeating step to
2 repeat said relocating, receiving, determining, generating, identifying, displaying and
3 generating steps until a user terminates said direction finding method.